

## Indiana University – Purdue University Fort Wayne Opus: Research & Creativity at IPFW

---

2011 IPFW Student Research and Creative  
Endeavor Symposium

IPFW Student Research and Creative Endeavor  
Symposium

---

4-9-2011

# Expression of intracellular adhesion molecules in ischemic tissue of the brain

Thomas Easterday

*Indiana University - Purdue University Fort Wayne*

Follow this and additional works at: [http://opus.ipfw.edu/stu\\_symp2011](http://opus.ipfw.edu/stu_symp2011)



Part of the [Biology Commons](#)

---

### Recommended Citation

Thomas Easterday (2011). *Expression of intracellular adhesion molecules in ischemic tissue of the brain*.  
[http://opus.ipfw.edu/stu\\_symp2011/8](http://opus.ipfw.edu/stu_symp2011/8)

This Presentation is brought to you for free and open access by the IPFW Student Research and Creative Endeavor Symposium at Opus: Research & Creativity at IPFW. It has been accepted for inclusion in 2011 IPFW Student Research and Creative Endeavor Symposium by an authorized administrator of Opus: Research & Creativity at IPFW. For more information, please contact [admin@lib.ipfw.edu](mailto:admin@lib.ipfw.edu).

Expression of intracellular adhesion molecules in ischemic tissue of the brain

Thomas Easterday

Dr. Bruce Kingsbury

Biology

Indiana University-Purdue University Fort Wayne

The blood-brain barrier (BBB) is both a metabolic and physical membrane that separates the central nervous system (CNS) from systemic circulation. Tight junction (TJ) proteins of vascular endothelial cells work in conjunction with astrocytes and pericytes to maintain the integrity of the BBB. Recent studies have shown that the degradation of the BBB after acute ischemic stroke is related to the inflammation and necrosis of brain tissue. For this reason, a further understanding of the degradation mechanisms that contribute to the breakdown of the BBB could assist in the clinical treatment of ischemic stroke. In this study, I correlate the distribution of one TJ protein, claudin-5, with the breakdown of the BBB. The results of which report an increase in claudin-5 expression in ischemic tissue following the degradation of the BBB, which may prove claudin-5 to be a useful marker of the integrity of the BBB following acute ischemic stroke.